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Introduction

Asthma is a chronic inflammatory disease affecting about 300 million people worldwide, with 255,000 people dying of the disease in 2005 (World health organization, <http://www.who.int/mediacentre/factsheets/fs307/en/index.html>). Allergic asthma is characterized clinically by the hypersecretion of mucus, chronic inflammation of the airways, and airway hyperresponsiveness (AHR). According to studies from patients and animal models of asthma, it has been suggested that, in allergic asthma, the Th2 lymphocytes induce, via the production of cytokines, an inflammatory cascade comprised of eosinophil action, IgE production, and mast cell activation, all of which in turn produce the necessary mediators causing AHR. At present, the development of new drugs against allergies continues. However, long-term cure for most allergic diseases have not been achieved. The major problems of drugs such as corticosteroids, anti-histamines, and anti-leukotrienes are the rapid re-appearance of symptoms and inflammation once treatment is discontinued. These drugs cannot offer long-lasting effects and require continuous use. To overcome problems and achieve permanent cure for allergic diseases, researchers have directed their efforts towards designing novel therapeutic approaches altering dysregulated immune mechanisms that lead to acute allergic reaction and chronic inflammation.

Research Projects

- Investigation of the therapeutic approach of asthma.
- Investigation of the mechanisms of treatment of asthma.
- Development of inhalation tolerance model of asthma.
- Investigation of the mechanisms of mucosal tolerance of allergic asthma in a murine model of asthma.
- Investigation of the mechanisms in severe asthma.
- Screen new drugs for allergic asthma.
- Investigation of mechanisms of lung fibrosis.
- Investigation of mechanisms of chronic obstructive pulmonary diseases.

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